

TO: Vermont Health Care Providers and Health Care Facilities
FROM: Laura Ann Nicolai, Deputy State Epidemiologist

Legionnaires' Disease Cluster in Northwest Vermont

BACKGROUND:

The Vermont Department of Health is investigating a cluster of five (5) patients who tested positive for *Legionella* and reside in Franklin or Grand Isle Counties. Legionnaires' disease diagnosis dates for these patients ranged from 08/09/22 to 08/27/22. There are no known common sources of exposure among these patients, although all spent time in Franklin County during their incubation periods.

Exposure to *Legionella* by aspiration or inhalation of aerosolized water containing the bacteria can lead to Legionnaires' disease or Pontiac fever. Legionnaires' disease is a severe type of pneumonia, often resulting in hospitalization. Signs and symptoms can include cough, shortness of breath, muscle aches, headache and fever. Most people get sick within 10 days of exposure, though the incubation period can be as long as 14 days. Pontiac fever symptoms are primarily fever, fatigue and muscle aches. It is a milder illness than Legionnaires' disease, and pneumonia is absent. Symptoms begin between a few hours to three days after exposure to the bacteria and usually last less than a week.

Legionella can be found in natural, freshwater environments, but generally is not present in sufficient numbers to cause disease. In human-made water systems, *Legionella* can grow and be transmitted to susceptible hosts via aerosolization. Routes of exposure may include showerheads and sink faucets, cooling towers (structures that contain water and a fan as part of centralized air-cooling systems for buildings or industrial processes), hot tubs, decorative fountains and water features, hot water tanks and heaters, and large, complex plumbing systems. Travel is also a risk factor for disease as hotels, resorts, and cruise ships often have large, complex water systems and aerosol-generating devices.

Providers should have a high index of suspicion for *Legionella* when evaluating patients with respiratory illness or sepsis who live or work in Franklin County. Patients with suspected or confirmed pneumonia should be tested for *Legionella* infection using both urine antigen and sputum/respiratory culture. *Legionella* isolation via culture can detect *Legionella* species and serogroups that the urinary antigen test does not and allows for additional non-diagnostic testing (characterization, typing and outbreak detection) for public health purposes.

Although urine antigen is a fast and convenient way to diagnose *Legionella* infection, the Health Department requests sputum or lower respiratory specimens from people who spent time within Franklin County. Isolates, if available, may also be submitted in place of respiratory specimens. These will assist with linking cases to potential environmental sources of exposure to *Legionella* through additional non-diagnostic testing at the Health Department Laboratory.

If ordering a sputum culture, alert your laboratory to test for *Legionella* since special microbiologic techniques are required to isolate this organism. Culture yield is greatest when sputum/respiratory samples are taken early in the patient's illness. Simultaneously conduct urine antigen and culture testing, rather than waiting to order cultures in response to a positive urine antigen test. Do not delay initiating antimicrobial therapy to obtain cultures.

Testing for and empirically treating *Legionella* is especially critical for persons at high risk for Legionnaires' disease, including people over the age of 50, who currently smoke or formerly smoked tobacco or other products, and those with chronic lung disease or immunocompromising conditions. The estimated case-fatality rate is 10% for community-acquired Legionnaires' disease. Presenting symptoms of Legionnaires' disease are similar to those of COVID-19, and providers should consider further evaluation of patients with pneumonia who have a negative test for COVID-19. For patients with Legionnaires' disease, use recommended treatment options for pneumonia that include macrolides and respiratory fluoroquinolones with activity against *Legionella* species. Antibiotic treatment is not recommended for Pontiac fever. It is a self-limited illness that does not benefit from antibiotic treatment. Recovery usually occurs within one week.

REQUESTED ACTIONS:

- Maintain a high index of suspicion for legionellosis among all adults with pneumonia, whether community-acquired or nosocomial.
- Test for *Legionella* when evaluating adults with symptoms of pneumonia using **both** urine antigen and sputum/respiratory culture, especially if they report residing, working or visiting within Franklin County.
- Report all suspect and confirmed cases to the Health Department by calling 802-863-7240, option 2.
- Send sputum/lower respiratory specimens or isolates to the Vermont Department of Health Laboratory for non-diagnostic isolation and molecular testing as part of the public health investigation. Submit all specimens with a [Clinical Test Request Form \(Micro 220\)](#).
- For laboratory-related submission questions, please call the Vermont Department of Health Laboratory at 802-338-4724.
- Do not withhold empiric therapy for *Legionella* while awaiting *Legionella*-specific testing.

ADDITIONAL RESOURCES:

[CDC - What Clinicians Need to Know about Legionnaires' Disease](#)
[CDC - Legionella Diagnosis, Treatment, and Prevention](#)

If you have any questions, please contact Laura Ann Nicolai at: lauraann.nicolai@vermont.gov.
To be removed from the HAN or have your information updated, please email the Vermont HAN Coordinator at: vthan@vermont.gov.

HAN Message Type Definitions

Health Alert: Conveys the highest level of importance; warrants immediate action or attention.

Health Advisory: Provides important information for a specific incident or situation may not require immediate action.

Health Update: Provides updated information regarding an incident or situation; unlikely to require immediate action.

Info Service Message: Provides general correspondence from the Vermont Department of Health, which is not necessarily considered to be of an emergent nature.